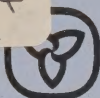


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SURVEY OF LOCAL TELEPHONE PRICING  
AND USAGE ISSUES AMONG CUSTOMERS  
IN ONTARIO

VOLUME 2 - SMALL BUSINESS

Prepared by

The Coopers & Lybrand Consulting Group

for

Ministry of Transportation and Communications  
Ontario

February 17, 1986



ONTARIO MINISTRY OF TRANSPORTATION AND  
COMMUNICATIONS

SURVEY OF LOCAL TELEPHONE PRICING AND USAGE  
ISSUES AMONG SMALL BUSINESS CUSTOMERS IN  
ONTARIO

February 17, 1986

Submitted to: Ontario Ministry of  
Transportation and  
Communications

Submitted by: L. Bozinooff, Ph.D.

The  
Coopers  
& Lybrand  
Consulting Group

Management Consultants





SURVEY OF LOCAL TELEPHONE PRICING AND USAGE ISSUES  
AMONG SMALL BUSINESS CUSTOMERS

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## EXECUTIVE SUMMARY

Local telephone service in Ontario has traditionally been priced on the basis of a flat rate per month. Bell Canada has proposed two significant changes to the pricing of local service. First, Bell has proposed to the CRTC that rate rebalancing be undertaken so that local rates are increased and long distance rates are decreased. Second, Bell Canada is extensively studying local measured service (LMS) which would move local rate structures away from a flat rate basis to a usage sensitive basis (similar to long distance rates). There is currently limited information on the effects of LMS and rate rebalancing within Ontario or within Canada.

The research objective of this study was to collect information from residential and small business telephone users in Ontario concerning:

- local and long distance calling patterns;
- attitudes towards local and long distance pricing issues;
- interrelationships between pricing attitudes and calling patterns;  
and
- interrelationships between pricing attitudes and user  
characteristics.

This report describes the findings regarding small business customers. A companion report contains the residential customer findings.

The data for this study were collected by a mail diary and accompanying questionnaire. The questionnaire was designed to measure telephone pricing attitudes and user characteristics. The diary was designed to





measure outgoing and incoming telephone calling patterns. Individuals were surveyed from each of the Ministry's five administrative regions, for a total of 291 respondents. The sample was drawn randomly from telephone books for a set of selected cities in each region. The cities were chosen on the basis of their representativeness of the region and the requirement that each city has Extended Area Service (EAS). Rural and suburban representation was ensured by recruiting individuals who resided in small communities adjacent to the selected cities.

There are five key findings:

- Small business respondents make an average of 29.2 local calls and 6.3 long distance calls each week, primarily to customers and suppliers.
- Most small business respondents are strongly opposed to the rate rebalancing proposal presented in this study, generally because few respondents perceive any benefits to them in rate rebalancing.
- Respondents are also opposed to either local measured service or local measured service with rate rebalancing.
- Respondents who make a high number of local calls tended to prefer flat rate service while respondents who make a low number of local calls tended to prefer local measured service.
- Respondents who make a low number of long distance calls tended to oppose the reduced long distance rates and higher local service charges under rate rebalancing while respondents who make a high number of long distance calls tended to prefer rate rebalancing.



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## I. INTRODUCTION

### A. BACKGROUND

Local telephone service in Ontario has traditionally been priced on the basis of a flat rate per month for a given exchange size (i.e., rate group) and type of service (i.e., residence, business). Bell Canada has proposed two significant changes to the pricing of local service.

First, Bell has proposed to the CRTC that a form of rate restructuring on which Bell calls "rate rebalancing" be undertaken so that local rates are increased and long distance rates are decreased. The arguments given for rate rebalancing include:

- Local service costs are said to be greater than local service rates.
- Long distance costs are said to be less than long distance rates.
- Competitive pressures in the long distance voice communication market will drive long distance charges toward cost.

Second, Bell Canada is extensively studying local measured service (LMS) which would move local rate structures away from a flat rate basis to a usage sensitive basis (similar to long distance rates). The arguments given for local measured service include:

- the inherent fairness of making customers pay in direct proportion to their local service usage and,
- the ability of LMS to induce customers to modify their local calling patterns by shifting calls to off-peak periods, thereby reducing the required switching capacity of the local network.





In the United States, numerous studies and isolated bits of data collectively point to the probability that the introduction of rate rebalancing and local measured service will have a different impact on business than on residential customers. It is generally felt that rate rebalancing will benefit large business customers more than residential and small business customers. Studies on LMS have shown that local service usage in the business market varies significantly by type of business. However, the usefulness of this literature is limited by the lack of information on the effects of LMS and rate rebalancing within Ontario or within Canada.

## B. RESEARCH OBJECTIVES

The research objective of this study was to collect information from residential and small business telephone users in Ontario concerning:

- local and long distance calling patterns;
- attitudes towards local and long distance pricing issues;
- interrelationships between pricing attitudes and calling patterns; and
- interrelationships between pricing attitudes and user characteristics.

This report describes the findings regarding small business customers. A companion report contains the residential customer findings.

## II. METHODOLOGY

### A. OVERVIEW

The data for this study were collected by a mail diary and accompanying questionnaire. The questionnaire was designed to



measure telephone pricing attitudes and user characteristics. The diary was designed to measure outgoing and incoming telephone calling patterns.

After reviewing the draft diary and questionnaire with Ministry of Transportation and Communications managers, both the diary and questionnaire were pretested. After reviewing the pretest results, a revised questionnaire and diary were developed (Appendix II).

Potential respondents were recruited by telephone and individuals who agreed to participate were mailed the diary and questionnaire. During the recruitment interview, individuals were asked how many telephones they had in their businesses so that one diary could be sent for each telephone set.

A quota of 210 individuals was recruited from each of the Ministry's five administrative regions, for a total of 1050 individuals. A regional quota was set in order to test for regional differences across the province in the survey results. Based on an estimated response rate of 30%, it was expected that the completed sample size would be 315 or 63 individuals in each region. This sample size (315) was chosen in order to achieve a sample accuracy of  $\pm 5.5\%$  for the aggregate result and  $\pm 10\%$  for regional results (based on a binominal distribution for a 50%-50% response proportion at a 95% confidence level).

The sample was drawn randomly from telephone books for a set of selected cities in each region. The cities were chosen on the basis of their representativeness of the region and the requirement that each city has Extended Area Service (EAS). Only business respondents located in communities with EAS were selected because local measured service may have the greatest impact in areas with EAS. Rural and suburban representation was ensured by recruiting

EXHIBIT 1

CITIES SAMPLED

<u>Region</u>	<u>Central Cities</u>	<u>Adjacent Communities</u>
Eastern	Ottawa	Rockland, Russell
	Kingston	Bath, Gananoque
Central	Metro Toronto	Maple
	Hamilton	Grimsby, Caledonia
Southwestern	London	Lambeth
	Windsor	Amherstberg, Essex
Northeastern	Sudbury	Lively, Whitefish, Chelmsford, Blezard Valley
	North Bay	Bonfield, Redbridge, Dokis
	Timmins	New Liskeard, Haileybury
Northwestern	Sault Ste. Marie	Echo Bay, Goulais
	Thunder Bay	Murillo

EXHIBIT 2

SAMPLE STRUCTURE BY TYPE OF SAMPLE

Completed Sample	291
Total Mailouts	1050
Response Rate	28%



businesses located in small communities adjacent to the selected cities. Exhibit 1, opposite, contains the list of cities from which businesses were recruited, broken down by region and type of city (i.e., central or adjacent). For the purposes of this study, a small business was any business with less than 50 employees and having five telephone lines or fewer.

Respondents were mailed the diary and questionnaire in one outer envelope which contained one diary for each telephone set the respondent owns. The questionnaire was enclosed in an inner envelope with instructions that the diary was to be completed before the questionnaire envelope was opened. This was done in order to avoid having the questionnaire bias the diary. The diary itself required the respondent and everyone else in the business to record all outgoing and incoming calls for their business during the week of either Thursday, May 2 to Wednesday, May 8, 1985 or Thursday, September 19 to Wednesday, September 25, 1985. For each outgoing call, the time and day of the call, length, person called and type of call (i.e., local or long distance) was recorded. For each incoming call, only the purpose of the call was recorded. All respondents received reminder telephone calls to complete and return the diary and questionnaire.

The questionnaire was answered after the diary was completed and respondents were encouraged to look at their completed diary while answering the questionnaire. This was done to ensure that respondents were fully aware of their telephone usage when they completed the questionnaire which provided respondents with the current basic local service rate in their area, excluding set rental and Touch Tone service. This was done to ensure that respondents were aware of the telephone service charges in their area as they completed the questionnaire.

EXHIBIT 3

SAMPLE STRUCTURE BY REGION

Region

SAMPLE SIZE	291
Southwest	22%
Central	14
Eastern	22
Northeast	17
Northwest	25

EXHIBIT 4

SAMPLE STRUCTURE BY COMMUNITY SIZE

Community Size

SAMPLE SIZE	291
Urban	63%
Rural, Small Community	37

EXHIBIT 5

NUMBER OF FULL TIME EMPLOYEES

SAMPLE SIZE	291
0	7%
1	26
2	26
3	12
4	11
5 and over	18

## B. SAMPLE STRUCTURE

A total of 291 usable diaries and questionnaires was received, representing a 28% response rate (Exhibit 2, opposite previous page). Exhibit 3, opposite, provides a breakdown of the sample structure by the Ministry's administrative regions. Due to varying response rates in each region, 14% of the sample comprised respondents located in the Central region, compared with a planned 20%. Conversely, 25% of the sample came from the Northwest region. These variations were relatively minor and did not reflect major regional differences in response rates.

A breakdown of the sample structure by community size is provided in Exhibit 4 on the opposite page. The majority of respondents (63%) are located in urban or central city locations. Only 37% of the respondents in the sample are located in the rural or small communities adjacent to central cities. It must be stressed, however, that all rural and small community respondents had extended area service to the larger, adjacent communities.

## C. RESPONDENT CHARACTERISTICS

The median number of full-time employees employed by the businesses surveyed was 2 employees with a range of 0 to 40 employees (Exhibit 5, opposite). This indicates that all of the businesses surveyed were small businesses. In terms of type of businesses represented in the survey, 34% were retailers, 26% were service and repair and 15% were manufacturers (Table 1, Appendix 1). Table 2, (Appendix I) presents a breakdown of businesses by main versus branch locations in the sample. The large majority of businesses (85%) were main business locations.

As noted earlier, all respondents had Extended Area Service to adjacent communities. The majority of businesses (84%) in the

EXHIBIT 6

NUMBER OF DAILY OUTGOING LOCAL CALLS

BY DAY OF WEEK

SAMPLE SIZE	270
Monday	5.3
Tuesday	5.3
Wednesday	5.3
Thursday	5.7
Friday	5.0
Saturday	1.9
Sunday	0.7
Total Week	29.2

EXHIBIT 7

NUMBER OF WEEKLY OUTGOING LOCAL CALLS

BY TIME OF DAY

SAMPLE SIZE	291
8:00 a.m.-9:00 p.m.	26.1
9:00 p.m.-11:00 a.m.	2.2
11:00 p.m.-8:00 a.m.	0.9
Total Week	29.2



sample did not have touchtone service (Table 3, Appendix I). More than two-thirds of businesses (69%) had only one telephone line.

#### D. SAMPLE ACCURACY

The next four sections present the key findings of the study. All results are presented on an aggregate, provincial basis without regional breakdowns. Regional analyses were undertaken, but no significant differences at a 95% confidence level were found in any of the results. Consequently, only aggregate results are presented in this report and the sample could be considered representative of the province as a whole, despite the regional quota sampling plan which was used.

In interpreting the study results, it must be stressed that the results are only accurate within a specified level of accuracy, due to sampling fluctuations. That is, had a different sample of respondents been drawn, sampling fluctuations might have yielded slightly different results. Appendix III contains the accuracy levels for binary responses (i.e., yes/no answers) for various response proportions at a 95% confidence level. Details concerning the use of this appendix are contained in the appendix itself.

### III. LOCAL AND LONG DISTANCE CALLING PATTERNS

#### A. LOCAL CALLING PATTERNS

Small business respondents made an average of 29.2 outgoing local calls from their businesses during the week that was surveyed (Exhibit 6, opposite). The daily average number of calls was 5.3 during the week and 1.3 during the weekend.

During the week that was surveyed, respondents made most of their outgoing local calls between 8:00 a.m. to 9:00 p.m. (26.1 calls),

EXHIBIT 8

NUMBER OF WEEKLY OUTGOING LOCAL CALLS

BY PERSON CALLED

Person Called

SAMPLE SIZE	180
Customers	11.1
Friends and Relatives	5.5
Suppliers	5.5
Other Businesses	4.6
Employees	2.5
Total Week	29.2

EXHIBIT 9

NUMBER OF WEEKLY OUTGOING LONG

DISTANCE CALLS BY DAY OF WEEK

SAMPLE SIZE	179
Weekdays	5.8
Weekends	0.5
Total Week	6.3

followed by 9:00 p.m. to 11:00 p.m. (2.2 calls) and 11:00 p.m. to 8:00 a.m. (0.9 calls) (Exhibit 7, opposite previous page).

Most of the weekly outgoing local calls made by business respondents were made to customers (11.1 calls), followed by calls to friends and relatives (5.5 calls), and suppliers (5.5 calls) (Exhibit 8, opposite).

#### B. LONG DISTANCE CALLING PATTERNS

Small business respondents made considerably fewer long distance calls than local calls during the week. On average, a total of 6.3 long distance calls were made during the week surveyed, comprised of 5.8 long distance calls made during week days and 0.5 long distance calls made during the weekend (Exhibit 9, opposite).

Unlike most local calls, most long distance calls made each week by business respondents were made to suppliers (2.6 calls) (Exhibit 10, opposite next page). Interestingly, a number of long distance calls were made to customers each week (1.7 calls).

#### C. INCOMING CALL PATTERNS

Small business respondents received an average of 64.3 calls during the week surveyed, indicating that businesses receive far more calls than they initiate (Table 5, Appendix 1). Of the 64.3 calls received each week, more than half of the calls were from customers (39.7 calls). This finding underlines the importance of the telephone for small businesses. Based on the findings of residential customers contained in a companion report, local measured service could have a detrimental effect on small business revenues by inhibiting customer calls.

#### D. SUMMARY

In terms of outgoing calling patterns, business respondents made an average of 29.2 local calls and 6.3 long distance calls each week.

EXHIBIT 10

NUMBER OF WEEKLY OUTGOING LONG

DISTANCE CALLS BY PERSON CALLED

Person Called

SAMPLE SIZE	160
Suppliers	2.6
Customers	1.7
Other Businesses	0.8
Employees	0.8
Friends and Relatives	0.4
Total Week	6.3

EXHIBIT 11

RATE RE BALANCING ATTITUDES

SAMPLE SIZE	277
Strongly in Favour	8%
Somewhat in Favour	14
Somewhat Opposed	15
Strongly Opposed	63
	78



Most local calls are made to customers while most long distance calls are made to suppliers and customers. The majority of local and long distance calls are made during the week rather than on weekends.

In terms of incoming calls, business respondents received an average of 64.3 calls of which 39.7 were from customers. These findings again illustrate the importance of the telephone to small businesses.

#### IV. TELEPHONE PRICING ATTITUDES

##### A. RATE REBALANCING

Respondents were asked whether they were in favour or opposed to a rate rebalancing plan. Under this plan their existing local rates would be doubled and their long distance rates would be reduced by 50%.

The vast majority of small business respondents were either strongly opposed (63%) or somewhat opposed (15%) to rate rebalancing (Exhibit 11, opposite). These results indicate that respondents have very strong opinions concerning their opposition to the rate rebalancing plan which was presented to them.

Despite the 50% reduction in long distance rates in the rebalancing plan, very few small business respondents indicated that they would make more long distance calls. The majority of respondents (72%), indicated that they would not change the number of long distance calls which they would make (Exhibit 12, opposite next page).

The strong opposition to rate rebalancing may be due to the fact that over two-thirds (68%) of respondents indicated that they would have difficulty affording rebalanced telephone rates (Exhibit 13, opposite next page). Of these respondents, 12% indicated that they would be somewhat likely to discontinue their telephone service and

EXHIBIT 12  
CHANGE IN LONG DISTANCE CALLING  
DUE TO REBALANCING

SAMPLE SIZE	289
Twice as Many Calls or More	1%
A Lot More	4
Somewhat More	9
A Few More	14
No Change	72

EXHIBIT 13  
AFFORDABILITY OF RATE REBALANCING

SAMPLE SIZE	224
Very Easy to Afford	2%
Easy to Afford	30
Difficult to Afford	43
Very Difficult to Afford	25
	} 68

13% would be very likely to discontinue their service (Exhibit 14, opposite next page). It is unlikely that all of these respondents would, in fact, discontinue their service. If 30% of those who answered that they would be "somewhat likely" to discontinue service and 90% of those who said they would be "very likely" to discontinue their service, in fact do so, then 15.3% of respondents might discontinue their telephone service with this rebalancing plan.

Respondents who both indicated that they would have difficulty affording rebalanced rates and who had more than one telephone line were asked how likely they would be to discontinue one line. Of these respondents, 29% indicated that they would be very likely to discontinue one telephone line and 10% indicated that they would be somewhat likely to discontinue one telephone line. Applying the above assumptions regarding "somewhat likely" and "very likely" responses, then 29.1% of multi-line small businesses would discontinue one telephone line if this rate rebalancing plan were introduced (Table 6, Appendix 1).

#### B. LOCAL MEASURED SERVICE

Respondents were asked whether they would prefer a flat rate which was \$5.00 per month higher than their current flat rate, or a local measured service rate with the following elements:

- Reduced monthly minimum charge equal to \$3 less than their current flat rate; and
- 3¢ charge for first minute of each outgoing local call; and
- Additional minute charges of 1¢ for calls made during the business week between 8 a.m. and 9 p.m., 2/3¢ for calls made between 9 p.m. and 11 p.m. during the week, and 1/3¢ for calls made at all other times.

EXHIBIT 14

LIKELIHOOD OF DISCONTINUING SERVICE

IF RATE REBALANCING OCCURRED

SAMPLE SIZE	190 <sup>1</sup>
Very Likely	13%
Somewhat Likely	12
Somewhat Unlikely	21
Very Unlikely	54

---

<sup>1</sup> Asked only of those respondents who indicated some difficulty in affording rate rebalancing.

The local measured service plan was partly based on a composite of local measured service rates and structures used in various American state jurisdictions. The time boundaries for peak and off-peak rates were obtained from a scenario presented by Bell Canada in Local Telephone Service Pricing: Is There A Better Way? ("LMS Rating Considerations", John A. Elliot, pg 53 to 59, Proceedings of a conference held in Montreal, Quebec, May 2 to May 4, 1984). These rates are not to be understood as necessarily predicted or advocated.

Despite the increased flat rate charge, most respondents (60%) still preferred the flat rate plan (Table 7, Appendix I).

In order to assess attitudes towards flat rate versus local measured service pricing in a rate rebalanced environment, respondents were also asked to indicate whether they preferred a second flat rate or a second local measured service rate. Both rates, however, allowed for a 50% reduction in long distance rates. The second flat rate was equal to twice their current flat rate plus an additional \$10.00. The combined local measured service rate contained the following elements:

- Increased monthly minimum charge of twice the respondent's current flat rate less \$6.00, plus
- 6¢ charge for the first minute of each outgoing local call, and
- additional minute charges of 2¢ for calls made during the business week between 8:00 a.m. and 9:00 p.m., 1 1/3¢ for calls made between 9:00 p.m. and 11 p.m. during the week and 2/3¢ for calls made at other times.

Given a choice between these two rate proposals, 35% preferred the second flat rate, 39% preferred the local measured service rate and

EXHIBIT 15

TIME SHIFTING DUE TO LMS

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	255	246
Yes, Would Shift	30%	32%
No, Wouldn't Shift	70	68



26% indicated that they would discontinue their telephone service (Table 7, Appendix I).

Respondents were asked why they preferred the flat rate plans to either the local measured service rate or the local measured service rate with rate rebalancing. The flat rate plan was preferred to the local measured service rate either because the flat rate was perceived to be less expensive (51%) or because the flat rate allowed the subscriber to know how much the telephone charges would be each month (36%) (Table 8, Appendix I). Similarly, preference for the second flat rate plan, compared to the local measured service rate with rate rebalancing, was based on a perception that the second flat rate plan was less expensive (59%) or because the subscriber would know how much the telephone charges would be each month (31%) (Table 8, Appendix I).

Preference for the local measured service plan was cross-tabulated, with preference for the local measure service with rate rebalancing plan in order to assess consistency of preferences. Among respondents who preferred local measured service with rate balancing, 72% also preferred local measured service without rate rebalancing (Table 9, Appendix I). Conversely, among respondents who preferred the second flat rate plan to local measured service with rate rebalancing, 89% preferred the first flat rate plan to local measured service without rate rebalancing. Finally, among those who indicated that they would discontinue their service if local measured service with rate rebalancing were introduced, 43% preferred the first flat rate plan.

Respondents were asked to estimate how many fewer local telephone calls they would make if either the local measured service rate or the local measured service rate with rate rebalancing were introduced and made mandatory. Under a local measured service rate, 77% indicated that they would not make any fewer calls each day

EXHIBIT 16

CHANGE IN LOCAL CALL LENGTH WITH LMS

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	276	272
A Lot Shorter	14% ]	20% ]
Somewhat Shorter	32 ] 36	36 ] 56
No Change	54	44
Somewhat Longer	0	0
A Lot Longer	0	0

EXHIBIT 17

LIKELIHOOD OF RESTRICTING PERSONAL CALLS FROM PLACE OF EMPLOYMENT

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	291	264
Very likely	48% ]	51% ]
Somewhat likely	21 ] 69	22 ] 73
Somewhat unlikely	12	11
Very unlikely	19	16

(Table 10, Appendix I). With a local measured service rate with rate rebalancing, the majority of respondents (64%) still indicated that they would not make any fewer local calls.

Respondents were also asked if they would shift their local calling to other time periods if the local measured service or local measured service/rate rebalancing plans were introduced. Approximately one-third of respondents indicated that they would shift the time of their local calling under either local measured service (30%) or local measured service/rate rebalancing (32%) plans (Exhibit 15, opposite previous page). Those respondents who indicated that they would switch their local calling to other time periods were asked how many calls they would switch each day. The median number of local calls which would be switched under the local measured service plan is 2.8 and under the local measured service/rate rebalancing plans is 2.9 (Table 11, Appendix I).

Respondents were also asked whether they would make shorter local calls if either local measured service or local measured service/rate rebalancing were introduced. A large number of respondents indicated that they would make shorter calls if either local measured service (46%) or local measured service/rate rebalancing (56%) were introduced (Exhibit 16, opposite).

Respondents were also asked whether they would restrict the number of personal telephone calls employees could make if either local measured service or local measured service with rate rebalancing were introduced. Most respondents indicated some likelihood that they would restrict the number of personal telephone calls made by employees under either local measured service (69%) or local measured service with rate rebalancing (73%) (Exhibit 17, opposite).



C. IMPORTANCE OF THE TELEPHONE FOR SMALL BUSINESSES

The concern respondents indicated regarding rate rebalancing and LMS reflects to a great extent, the importance of the telephone for small businesses. It was shown earlier that the largest portion of calls received by small businesses are from customers and the calls made to customers represent the largest proportion of outgoing local calls.

Two other findings reinforce the importance of the telephone for small businesses. First, the majority of respondents (58%) correctly perceived that their telephones are used most often to communicate with their customers (Table 12, Appendix 1). Second, the vast majority of respondents (81%) indicated that the telephone was very important to their business (Table 13, Appendix 1).

D. SUMMARY

There are two major findings concerning telephone pricing attitudes. First, most small business respondents are strongly opposed to the rate balancing proposal presented to them in this survey. One reason for this opposition to rate rebalancing is the perceived lack of benefits of reduced long distance charges since few respondents indicated that they would make more long distance calls if the rates were reduced. In fact, many respondents indicated that they would have difficulty affording rebalanced rates, some to the extent of discontinuing service or dropping one line.

Second, respondents are also opposed to either local measured service or local measured service with rate rebalancing for two reasons: respondents believe the flat rate is cheaper and it sets a maximum bill each month. A substantial number of respondents





indicated that they are likely to save on local calling charges by shifting their calling to cheaper time periods and making shorter calls rather than reducing the number of local calls made should LMS or LMS/rate rebalancing be introduced. A substantial number of respondents indicated they would discontinue their service, if LMS/rate rebalancing were introduced. (See Table 7, Appendix I).

V. RELATIONSHIP BETWEEN CALL PATTERNS AND TELEPHONE SERVICE PRICING ATTITUDES

Analysis was undertaken to determine whether the number of calls made by respondents were related to their attitudes concerning telephone service pricing. Significant relationships were identified by applying cross tabulation and analyses of variance techniques with a 95% confidence level.

Preference for rate rebalancing was significantly related to the number of long distance calls made by respondents. Respondents who were strongly in favour of rate rebalancing made significantly more long distance calls (8.1) each week than respondents who were strongly opposed to rate rebalancing (3.3) (Table 14, Appendix I).

Not surprisingly, the number of outgoing local calls made by respondents was related to their preference for flat rate over local measured service. Respondents who preferred flat rate made significantly more local calls each week (32.9) than respondents who preferred local measured service (24.3) (Table 15, Appendix I). However, no relationship between local calling patterns and preference for local measured service with rate rebalancing could be established (Table 16, Appendix I). However, the sample size may be insufficient to detect such a relationship in this survey.



In summary, there is a positive relationship between the number of long distance calls made by respondents and their preference for rate rebalancing. Respondents who prefer rate rebalancing make more long distance calls than those who oppose rate rebalancing.

In addition, there is a positive relationship between the number of local calls made by respondents and their preference for flat rate over local measured service. Respondents who prefer flat rate service make more local calls than those who prefer local measured service. No relationship between the number of local calls made by respondents and preference for flat rate over local measured service with rate rebalancing could be established.

VI. RELATIONSHIP BETWEEN TELEPHONE SERVICE PRICING ATTITUDES AND RESPONDENT CHARACTERISTICS

The relationships between telephone service pricing attitudes and type of businesses were examined, using cross tabulation and analyses of variance. However, no significant relationships were found, indicating the unpopularity of LMS and rate rebalancing is wide spread.

VII. SUMMARY OF KEY FINDINGS

There are six key findings. First, small business respondents make an average of 29.2 local calls and 6.3 long distance calls each week, primarily to customers and suppliers.

Second, most small business respondents are strongly opposed to the rate rebalancing proposal presented in this study, generally because few respondents perceive any benefits to them in rate rebalancing. The long distance cost savings do not exceed the increased local service costs.

Third, respondents are also opposed to either local measured service or local measured service with rate rebalancing. A number of respondents indicated that they would discontinue their service if local measured service with rate rebalancing were introduced (Table 7, Appendix I).



APPENDIX I

SUPPLEMENTARY TABLES





TABLE 1  
TYPE OF BUSINESS

SAMPLE SIZE	278
Retailers	34%
Service & Repair	26
Manufacturers	15
Other	25



TABLE 2  
TYPE OF LOCATION

SAMPLE SIZE	286
Main location	85%
Branch location	15



TABLE 3  
TOUCHTONE SERVICE

SAMPLE SIZE

Have Touchtone Service	16%
Don't Have Touchtone Service	84

TABLE 4  
NUMBER OF LINES

SAMPLE SIZE	277
1	69%
2	25
3	4
4	1





TABLE 5

NUMBER OF INCOMING CALLS BY TYPE OF CALL

SAMPLE SIZE	194	
Customer Inquiries	31.2	} 39.7
Customer Orders	8.5	
Personal	8.4	
Other employees	6.5	
Other calls	<u>8.4</u>	
Total Week	64.3	



TABLE 6

LIKELIHOOD OF DISCONTINUING ONE LINE  
IF RATE REBALANCING OCCURRED

SAMPLE SIZE	101 <sup>1</sup>
Very likely	29%
Somewhat likely	10
Somewhat unlikely	12
Very unlikely	49

---

<sup>1</sup> Asked only of those respondents who both indicated some difficulty affording rate rebalancing and who had more than one telephone line.



TABLE 7  
LMS PREFERENCES

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	196	183
Prefer Flat Rate	60%	35%
Prefer LMS	40	NA
Prefer LMS & Rebalancing	NA	39
Discontinue Service	NA	26

---

NA - Not Asked

TABLE 8  
REASONS FOR PREFERRING FLAT RATE

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	111	59
Flat Rate Cheaper	51%	59%
Know Amount Each Month	36	31
Both	3	3
Other	10	7



TABLE 9

RELATIONSHIP BETWEEN LMS PREFERENCE  
AND LMS WITH RATE REBALANCING PREFERENCE

		<u>LMS WITH RATE REBALANCING PREFERENCE</u>		
		<u>Flat Rate</u>	<u>LMS with Rebalancing</u>	<u>Discontinue Service</u>
SAMPLE SIZE		56	60	23
LMS	Flat Rate	89%	28%	43%
Preference	LMS	11	72	57

(p < .001)

<sup>1</sup> Indicates that of those respondents who preferred flat rate service instead of LMS with rate rebalancing, 89% also preferred flat rate service to LMS.

TABLE 10

LOCAL CALLING REPRESSION  
PER DAY WITH LMS

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	206	199
None	77%	64%
One	2	1
Two	4	6
Three	4	6
Four	1	2
Five or More	12	21
Median	0	0





TABLE 11  
 NUMBER OF CALLS SWITCHED  
TO A CHEAPER TIME EACH DAY WITH LMS

	<u>LMS Only</u>	<u>LMS and Rebalancing</u>
SAMPLE SIZE	43 <sup>1</sup>	48 <sup>1</sup>
None	16%	10%
One	12	6
Two	11	23
Three	14	13
Four	7	6
Five or More	40	42
Median	2.8	2.9

---

<sup>1</sup> Asked only of those respondents who indicated some likelihood of switching calling times.



TABLE 12

WHAT BUSINESSES USE TELEPHONE FOR MOST OFTEN

SAMPLE SIZE	269
Calling customers	58%
Calling suppliers	26
Other	16



TABLE 13  
IMPORTANCE OF TELEPHONE TO BUSINESSES

SAMPLE SIZE	291
Very important	81%
Somewhat important	16
Somewhat unimportant	2
Very unimportant	1

TABLE 14  
RELATIONSHIP BETWEEN OUTGOING LONG DISTANCE CALLS  
AND RATE REBALANCING

<u>Preference</u>	<u>Number of Long Distance Calls (weekly)</u>
SAMPLE SIZE	154
Strongly in favour	8.1
Somewhat in favour	10.1
Somewhat opposed	5.0
Strongly opposed	3.3
	(p < .01)





TABLE 15

RELATIONSHIP BETWEEN OUTGOING LOCAL CALLS AND LMS PREFERENCE

<u>Preference</u>	<u>Number of Local Calls (Weekly)</u>
SAMPLE SIZE	123
Flat Rate	32.9
LMS	24.3
	(p < .01)

TABLE 16

RELATIONSHIP BETWEEN OUTGOING LOCAL CALLS  
AND LMS/RATE REBALANCING PREFERENCE

<u>Preference</u>	<u>Number of Local Calls (Weekly)</u>
SAMPLE SIZE	112
Flat Rate	34.0
LMS Rebalancing	30.5
Discontinue Service	21.5
	(N.S.)

---

N.S. - Not Significant at 95% confidence level. This indicates that the differences in the number of local calls among the three groups may be due to sampling fluctuations.



THE QUESTIONNAIRE AND DIARY

(Example of Questionnaire and Diary  
Used for Small Business Respondents Located in Bell Canada  
Rate Group 7, eg., North Bay)



Demand Research  
99 Bank Street, Suite 727  
Ottawa, Ontario  
K1P 6B9  
(613) 235-1468

Card #:	<u>1</u>	1
Resp #:	— — — —	2-5
Project #:	<u>2 0 2 1 1 9</u>	6-11
Version #:	2 0 7	12-14

TELEPHONE STUDY

BUSINESS QUESTIONNAIRE

We have designed this questionnaire so that a minimum amount of effort on your part is required to complete it.

In some cases, you will answer by circling a number on the scale provided. In other cases, we will ask you to write in your answer.

To guide you through the questionnaire, each question is followed by its own set of instructions.

We would like you to answer a few questions about some possible changes to you business telephone rates. If you wish, you may look at your weekly record of calls when you answer these questions.

For your information, the current business local service rate in your area, excluding telephone set rental and TouchTone service charges is \$22.45 per month.

A local call is a call where there is no long distance charge.

1. Would you be in favour or opposed to a doubling of your business local service telephone rate to \$44.90 each month if long distance rates in general were reduced by 50%? **CIRCLE ONE NUMBER.**

- |                    |   |
|--------------------|---|
| Strongly in favour | 1 |
| Somewhat in favour | 2 |
| Somewhat opposed   | 3 |
| Strongly opposed   | 4 |
| Undecided          | 8 |



2. If these changes took place in your business telephone rates, please indicate whether the number of long distance calls that you make each month would increase. **CIRCLE ONE NUMBER.**

Would make twice as many or more long distance calls	1
Would make a lot more long distance calls	2
Would make somewhat more long distance calls	3
Would make a few more long distance calls	4
No change in long distance calls	5
Undecided	8

\_ 16

3. And, would these changes make your telephone rates easy or difficult to afford? **CIRCLE ONE NUMBER.**

Very easy to afford	1	] SKIP QUESTION 4
Easy to afford	2	
Difficult to afford	3	
Very difficult to afford	4	
Undecided	8	

\_ 17

4. If these changes took place in your business telephone rates, how likely would you be to discontinue your business telephone service? **CIRCLE ONE NUMBER.**

Very likely	1
Somewhat likely	2
Somewhat unlikely	3
Very unlikely	4
Undecided	8

\_ 18





IF YOUR BUSINESS LOCATION HAS ONLY 1 LINE, SKIP QUESTION 5.

5. If these changes took place in your business telephone rates, how likely would you be to discontinue at least 1 telephone line? **CIRCLE ONE NUMBER.**

Very likely	1
Somewhat likely	2
Somewhat unlikely	3
Very unlikely	4
Undecided	8

— 19

Your business local service telephone rate is currently based on a flat rate where you can make an unlimited number of local calls for a flat charge.

One alternative to a local flat rate is a local measured rate where there would be a minimum monthly charge of \$19.45 plus a usage charge of:

For the first minute of each outgoing local call: 3¢

For each additional minute:

- for calls made Mon-Fri, from 8 am to 9 pm 1¢
- for calls made Mon-Fri, from 9 pm to 11 pm 2/3¢
- for calls made during all other times 1/3¢

6. If your current business local flat rate was increased by \$5 to \$27.45 each month, would you prefer the new higher local flat rate or the local measured rate? (Please feel free to look at your record of telephone calls when answering this question if you wish). **CIRCLE ONE NUMBER.**

Prefer new flat rate	1
Prefer local measured rate	2
Undecided	8

SKIP QUESTION 7

— 20



7. What is the main reason for preferring the new business local flat rate instead of the local measured rate? **CIRCLE ONE NUMBER**

- New local flat rate would cost your business less than the local measured rate 1
- You would know how much your bill would be each month 2
- Other (specify) \_\_\_\_\_ 3

\_ 21

8. If the local measured rate was introduced in your area and your business were charged the local measured rate, how many fewer local calls, if any, would your business make each day? **CIRCLE ONE NUMBER.**

- No change 0
- One 1
- Two 2
- Three 3
- Four 4
- Five or more 5
- Not sure 8

\_ 22

9. And, if your business were charged the local measured rate, would your business change the times when some of your local calls were made in order to save money? **CIRCLE ONE NUMBER.**

- Yes 1
  - No 2
  - Undecided 8
- SKIP QUESTION 10

\_ 23



10. How many calls in the average day would your business switch to a cheaper time period, in order to save money? **CIRCLE ONE NUMBER.**

None	0
One	1
Two	2
Three	3
Four	4
Five or more	5
Not sure	8

— 24

11. If your business were charged the local measured rate, would the length of your average local call change? Would it be .... **CIRCLE ONE NUMBER.**

A lot shorter	1
Somewhat shorter	2
No change	3
Somewhat longer	4
A lot longer	5
Undecided	8

— 25

12. And, if your business were charged the local measure rate, how likely would you be to restrict the number of personal calls that employees could make from work? **CIRCLE ONE NUMBER.**

Very likely	1
Somewhat likely	2
Somewhat unlikely	3
Very unlikely	4
Undecided	8

— 26



Another alternative to a local flat rate is a second local measured rate where there would be a minimum monthly charge of \$38.90 plus a usage charge of:

For the first minute of each outgoing local call: 6¢

For each additional minute:

- for calls made Mon-Fri, from 8 am to 9 pm 2¢
- for calls made Mon-Fri, from 9 pm to 11 pm 1 1/3¢
- for calls made during all other times 2/3¢

9 27  
9 28  
9 29

In addition, long distance rates in general would be reduced by 50%.

13. If your current business local flat rate was increased by \$32.45 to \$54.90 each month, with a 50% reduction in long distance rates, would you prefer the new higher local flat rate or this second local measured rate, or would you discontinue your telephone service? (Please feel free to look at your record of telephone calls when answering this question if you wish.)  
**CIRCLE ONE NUMBER.**

- Prefer new flat rate 1
- Prefer local measured rate 2
- Discontinue telephone service 3 **SKIP QUESTION 14**
- Undecided 8

30

14. What is the main reason for preferring the new local flat rate instead of this local measured rate? **CIRCLE ONE NUMBER.**

- New local flat rate would cost your business less than the local measured rate 1
- You would know how much your bill would be each month 2
- Other (specify) \_\_\_\_\_ 3

31

\_\_\_\_\_  
\_\_\_\_\_





15. If this local measured rate was introduced in your area and your business were charged this local measured rate, how many fewer local calls, if any, would your business make each day? **CIRCLE ONE NUMBER.**

No change	0
One	1
Two	2
Three	3
Four	4
Five or more	5
Not sure	8

\_ 32

16. And if your business were charged this local measured rate, would your business change the times when some of your local calls were made in order to save money? **CIRCLE ONE NUMBER.**

Yes	1
No	2
Undecided	8

SKIP QUESTION 17

\_ 33

17. How many calls in the average day would your business switch to a cheaper time, in order to save money? **CIRCLE ONE NUMBER.**

None	0
One	1
Two	2
Three	3
Four	4
Five or more	5
Not sure	8

\_ 34



18. If your business were charged the local measured rate, how would the length of your average local call change? Would it be .... CIRCLE ONE NUMBER.

- A lot shorter 1
- Somewhat shorter 2
- No change 3
- Somewhat longer 4
- A lot longer 5
- Undecided 8

35

19. And, if you business were charged the local measure rate, how likely would you be to restrict the number of personal calls that employees could make from work? CIRCLE ONE NUMBER.

- Very likely 1
- Somewhat likely 2
- Somewhat unlikely 3
- Very unlikely 4
- Undecided 8

36

20. What does your business use the telephone for most often? PLEASE BE SPECIFIC AND PRINT YOUR ANSWER CLEARLY.

9 37  
9 38

39-40

41-42

21. How important is the telephone to your business? CIRCLE ONE NUMBER.

- Very important 1
- Somewhat important 2
- Somewhat unimportant 3
- Very unimportant 4
- Undecided 8

43



Finally, a few questions to help us classify your answers along with everyone else who has taken part in the survey.

22. How many telephone sets do you have at this business location? RECORD NUMBER.

\_\_\_\_\_ sets

— 44

23. And, how many telephone lines do you have at this business location? RECORD NUMBER.

\_\_\_\_\_ lines

— 45

24. Do you have TouchTone telephone service at this location? CIRCLE ONE NUMBER.

Yes 1

No 2

Don't know 3

— 46

25. About how many full-time employees are there at this business location? RECORD NUMBER.

\_\_\_\_\_ full-time employees

47-48

26. How many hours is your business open each week? RECORD BELOW.

\_\_\_\_\_ hours

49-51

27. Is this the main location of your firm or a branch location? CIRCLE ONE NUMBER ONLY.

Main location 1

Branch location 2

— 52



28. What is the primary type of business you are engaged in? CIRCLE ONE  
NUMBER ONLY.

- Producers, Agriculture, Mining 1
- Buyers, Wholesalers, Brokers 2
- Manufacturers 3
- Retailers 4
- Financial Institutions 5
- Construction 6
- Service and Repair (Photographers, Barbers,  
Tailors, Truck Rentals, Television Rental, etc.) 7
- Professionals (Doctors, Engineers, Lawyers, etc.) 8
- Transportation/Utilities 9
- Insurance 10
- Government 11
- Other (specify) \_\_\_\_\_ 12

THANK YOU VERY MUCH. PLEASE MAIL THIS QUESTIONNAIRE  
AND YOUR WEEKLY RECORD OF CALLS IN THE ENVELOPE PROVIDED

53  
9 9  
54-55  
9 56  
9 57  
9 9  
58-59  
9 60  
9 61  
9 9  
62-63  
9 9  
64-65  
9 9  
66-67  
9 9  
68-69  
9 9  
70-71  
9 9  
72-73  
9 9  
74-75  
9 9  
76-77  
9 78  
9 79  
9 80





## INSTRUCTIONS

### OUTGOING CALLS

For each outgoing call that you or anyone else at this business location makes, please indicate the first three digits of the number called (not the area code) and indicate:

1. Time of day -           8 a.m. - 9 p.m., or  
                              9 p.m. - 11 p.m., or  
                              11 p.m. - 8 a.m.
2. Length of call in minutes
3. Person called -       customers, potential customers, or  
                              suppliers, or  
                              other employees at another location, or  
                              friends, relatives, or other (i.e. none of the  
                              above)
4. Type of call -         local, or  
                              long distance.

### INCOMING CALLS

For each incoming call that you or anyone else at this business location receives, please indicate whether the purpose of the call was

1. to place an order, or
2. a customer (client inquiry), or
3. a call from other employees, or
4. a social call (i.e. friends, relatives), or
5. miscellaneous call (none of the above).

**PLEASE BE SURE TO DO THIS AS EACH CALL OCCURS THROUGHOUT EACH DAY FOR THE NEXT SEVEN DAYS**

If you have more than one telephone, leave one copy of this booklet beside each telephone.

Please remind everyone at this business location who uses the telephone to record their calls when they make them.

Do not record calls that are not completed, that is, if there is no answer or you get a busy signal.

Please record your main telephone number here: \_\_\_\_\_

Please record your community here: \_\_\_\_\_



## INSTRUCTIONS

## OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON THURSDAY, MAY 2, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL  (MINUTES)	PERSON CALLED					TYPE OF CALL	
	8 AM To 9 PM	9 PM To 11 PM	11 PM To 8 AM		CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
1. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )



## INSTRUCTIONS

## OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON FRIDAY, MAY 3, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL  (MINUTES)	PERSON CALLED					TYPE OF CALL	
	8 AM To 9 PM	9 PM To 11 PM	11 PM To 8 AM		CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
1. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _ _ _	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )



### INSTRUCTIONS

### OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON SATURDAY, MAY 4, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL	PERSON CALLED					TYPE OF CALL	
	8 AM To	9 PM To	11 PM To	(MINUTES)	CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
	9 PM	11 PM	8 AM								
1. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )





## INSTRUCTIONS

### OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON SUNDAY, MAY 5, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL  (MINUTES)	PERSON CALLED					TYPE OF CALL	
	8 AM To 9 PM	9 PM To 11 PM	11 PM To 8 AM		CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
1. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )



## INSTRUCTIONS

### OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON MONDAY, MAY 6, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL	PERSON CALLED					TYPE OF CALL	
	8 AM To	9 PM To	11 PM To	(MINUTES)	CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
	9 PM	11 PM	8 AM								
1. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )



## INSTRUCTIONS

### OUTGOING CALLS INSTRUCTIONS

USE THIS PAGE FOR ALL CALLS MADE OR RECEIVED ON WEDNESDAY, MAY 8, 1985.

For each outgoing completed call that is made from this business location, please indicate the first three digits of the number called, the length of the call in minutes and check (✓) the appropriate bracket for the time of day, person called, and type of call.

Record first three digits of number called	TIME OF DAY			LENGTH OF CALL (MINUTES)	PERSON CALLED					TYPE OF CALL	
	8 AM To 9 PM	9 PM To 11 PM	11 PM To 8 AM		CUSTOMERS, POTENTIAL CUSTOMERS	SUPPLIERS	OTHER EMPLOYEES	FRIENDS, RELATIVES	OTHER	LOCAL	LONG DISTANCE
1. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
2. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
3. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
4. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
5. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
6. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
7. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
8. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
9. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
10. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
11. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
12. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
13. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
14. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
15. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
16. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
17. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
18. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
19. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )
20. _____	( )	( )	( )	_____	( )	( )	( )	( )	( )	( )	( )

## INCOMING CALLS INSTRUCTIONS

For each incoming call that you or anyone else at this business location receives, please indicate by a check (✓) whether the call was to place an order, a customer/client inquiry, a call to other employees, a social call or a miscellaneous call.

To place an order	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A customer/client inquiry	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A call to other employees	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A social call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )
A miscellaneous call	( )	( )	( )	( )	( )	( )	( )
	( )	( )	( )	( )	( )	( )	( )



# APPENDIX III

TABLE OF POINT ESTIMATE CONFIDENCE  
INTERVALS FOR EXTRAPOLATION OF RESULTS TO POPULATION

CONFIDENCE INTERVAL	SAMPLE SIZE			
	100	200	500	1000
95% - 90%	2.575	2.575	2.575	2.575
90% - 80%	2.575	2.575	2.575	2.575
80% - 70%	2.575	2.575	2.575	2.575
70% - 60%	2.575	2.575	2.575	2.575
60% - 50%	2.575	2.575	2.575	2.575
50% - 40%	2.575	2.575	2.575	2.575
40% - 30%	2.575	2.575	2.575	2.575
30% - 20%	2.575	2.575	2.575	2.575
20% - 10%	2.575	2.575	2.575	2.575
10% - 0%	2.575	2.575	2.575	2.575

TABLE OF POINT ESTIMATE CONFIDENCE  
INTERVALS FOR EXTRAPOLATION OF RESULTS TO POPULATION

The following table gives the point estimate confidence intervals for extrapolation of results to population. The intervals are given for sample sizes of 100, 200, 500, and 1000. The intervals are given for confidence levels of 95%, 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20%, and 10%.

The intervals are given for sample sizes of 100, 200, 500, and 1000. The intervals are given for confidence levels of 95%, 90%, 80%, 70%, 60%, 50%, 40%, 30%, 20%, and 10%.







